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PRELIMINARY COMMUNICATION

WHO International Pilot Study of Schizophrenia[1]

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SYNOPSIS The results are described of a transcultural psychiatric study of schizophrenia undertaken by WHO in nine countries. The study proved that such a collaboration was feasible, that it was possible to develop research procedures for international use, and that similar types of schizophrenia could be found in each of the countries involved. One thousand two hundred and two patients were studied and over 2 million items of information obtained.

Approximately one person out of every 100 will become ill with schizophrenia at some time during his life. In some countries, as many as one quarter of all hospital beds are occupied by individuals diagnosed as schizophrenic. As schizophrenia is so often a chronic, disabling condition, it is clear that among the diseases, physical and mental, which afflict mankind, schizophrenia is one of the major causes of suffering and loss of productivity. This was one of the main reasons that schizophrenia was selected as the subject of a major transcultural psychiatric study undertaken by the World Health Organization—the International Pilot Study of Schizophrenia (IPSS).

Although the importance of basic epidemiological studies in the understanding of diseases is now well established in the general field of medicine, certain problems have made it difficult to carry out such basic studies within the field of psychiatry. The lack of universally acceptable definitions of specific syndromes and diseases has made the identification of a case even more of a problem in psychiatry than in other branches of medicine. Standardized research instruments and procedures that would be applicable in many different cultural and social settings have also been lacking. The question of whether psychiatrists from widely separated countries with different cultural and socio-economic conditions can collaborate effectively on a major scale has not been definitively answered.

The International Pilot Study of Schizophrenia was designed to investigate the feasibility of such collaboration, to develop standardized instruments and procedures for a reliable evaluation in different countries of the clinical conditions of patients suffering from psychiatric illness, particularly schizophrenia, and to determine whether groups of schizophrenic patients with similar characteristics could be identified in many different countries and cultures.

This study is part of the World Health

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The collaborating investigators on this study were: in Colombia, Dr. C. Leon (principal collaborating investigator), Drs. G. Calderon, and E. Zambrano (psychiatrists); in Czechoslovakia, Dr. L. Hanzlicek (principal collaborating investigator), Drs. T. Dostal, M. Formankova, E. Ledererova, S. Ruzicka, C. Skoda, and O. Vinar (psychiatrists); in Denmark, Dr. E. Strömgren (principal collaborating investigator), Drs. A. Berthelsen, N. Engkilde, M. Fischer, C. Flach, and N. Juel-Nielsen (psychiatrists); in India, Dr. K. Dube (principal collaborating investigator), Drs. D. Parekh and B. Yadav (psychiatrists); in Nigeria, Dr. T. Lambo (principal collaborating investigator), Drs. M. Akindele, T. Asuni, A. Marinho, M. Olatawura, C. Oshodi, and T. Otolorin (psychiatrists); in the Republic of China, Dr. C. Chen (principal collaborating investigator), Drs. W. Tseng and M. Tsuang (psychiatrists); in the Union of Soviet Socialist Republics, Dr. R. Nadzarov (principal collaborating investigator), Drs. V. Levit, E. Petrova, and N. Zharikov (psychiatrists); in the United Kingdom, Dr. J. Wing (principal collaborating investigator), Drs. J. Birley, and J. Leff (psychiatrists); in the United States of America, Drs. L. Wynne and J. Strauss (principal collaborating investigators), Dr. W. Carpenter (psychiatrist). At Headquarters in WHO, Geneva, Dr. N. Sartorius (principal investigator), Dr. T. Lin (former principal investigator), Dr. R. Shapiro (psychiatrist), Dr. A. Richman (psychiatrist), Dr. G. Ginsburg (social scientist), Miss E. Brooke (statistician), and Mr. M. Kimura (statistician).

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Organization's long-term plan in psychiatric epidemiology and social psychiatry. The plan consists of four interlinked programmes. Programme A is concerned with the standardization of psychiatric diagnosis, classification, and statistics. Programme B is concerned with the development of internationally applicable techniques for the evaluation of mental patients in epidemiological and other psychiatric studies. Programmes A and B are preparatory for Programme C, which consists of comprehensive epidemiological studies of psychiatric disorders in geographically defined populations. The fourth part, Programme D, is an international research training programme in psychiatric epidemiology and social psychiatry designed to help meet the urgent manpower needs in this field. The IPSS is the major vehicle of Programme B.

Field research centres for the study were selected in nine countries: Colombia (University del Valle, Cali); Czechoslovakia (Psychiatric Research Institute, Prague); Denmark (University of Aarhus, Risskov); India (Mental Hospital, Agra); Nigeria (University College Hospital, Ibadan); Republic of China (Taiwan University Hospital, Taipei, Taiwan); Union of Soviet Socialist Republics (Institute of Psychiatry of the USSR Academy of Medical Sciences, Moscow); United Kingdom (Medical Research Council Social Psychiatry Research Unit, London); and the United States of America (National Institute of Mental Health, Maryland). Field research centre teams were composed of a principal collaborating investigator, other psychiatrists, psychologists, social workers, and statisticians. In each field research centre, team members were all from the country concerned.[2] Over 1,200 patients were included in the study.

Three major conclusions stand out from the IPSS experience to date. The first is that it has been possible to carry out a large-scale international psychiatric study requiring the coordination and collaboration of psychiatrists and other mental health workers from different theoretical backgrounds and from widely separated countries with different cultures and socio-economic conditions. The second major conclusion is that it is possible to develop reliable research instruments and procedures for practical use in international psychiatric studies. The third major conclusion is that similar groups of schizophrenic patients can be identified in every one of the nine countries involved in the study. In addition, there are some groups of schizophrenic patients which have centre-specific characteristics.

These findings are important, because it has often been said that transcultural psychiatric studies cannot be done effectively because differences in diagnostic practice are irreconcilable. What is striking about the IPSS experience is that, with a relatively small amount of training, psychiatrists from nine countries were able to look at patients in a standardized manner for research purposes and find groups of schizophrenics similar in many respects in all of their countries.

Another implication of the IPSS findings relates to the fact that, in the past, it has been very difficult to compare the results of one study of schizophrenia with another because it has rarely been clear whether the same entity has been studied in both cases. This problem has limited the usefulness of biochemical, genetic, psychopharmacological, sociocultural, and other studies of schizophrenia. The methodology of the IPSS provides a reliable way for identifying and describing similar groups of schizophrenic patients, so that they can be studied in a variety of ways by different investigators in various countries with the reasonable assurance that the same entity is being studied.

A parallel benefit from such a pilot study has been the development of a network of research centres in various countries, which can serve as solid bases for future international work. Training of a number of psychiatrists and other mental health workers in the field of epidemiological and social psychiatry has been a concurrent and valuable activity. In the future, expansion of such training will be implemented in accordance with the objectives of Programme D.

The field research centre was the basic unit of implementation of the study. Factors that went into the selection of a field research centre included the availability of a well-trained psychiatrist with knowledge and experience in epidemiological research, the presence of other trained psychiatrists and supporting staff, and

[2] It is not possible to list all team members in this space. Participating psychiatrists are listed in the footnote on page 422 but the project could not have been carried out without the help of the other workers involved.

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the existence of a network of services that would detect likely and early cases of schizophrenia occurring in a population of approximately half a million to one million people. Other criteria provided that the population of the catchment area of the centre should be as little mobile as possible and be socioculturally heterogeneous. In addition, census data had to be available, and the field research centre was to be strategically located in relation to its continuing academic and administrative influence on the future mental health services in its country. WHO Headquarters in Geneva was made the central organizing headquarters for the study, since it was well suited to handling the administrative problems of coordinating research activities and data analyses.

All patients contacting the treatment facility at a field research centre were screened for inclusion in the study on the basis of demographic and symptomatic criteria. Patients were included in the study who were 15 to 44 years of age, had resided in the catchment area for at least six months before inclusion, had no evidence of organic psychiatric disease, and showed at least one of a number of specific symptoms. One thousand, two hundred and two patients who satisfied these criteria received an intensive initial evaluation by the research team at the field research centre. Patients seen in initial evaluation are being re-evaluated at one and two year follow-up periods. The initial evaluation of a patient lasted up to five hours and resulted in the accumulation of some 1,600 items of information.

In order to obtain this information in a standardized manner, it was necessary to develop a standardized set of research instruments. Eight instruments were used in the study, of which the three basic instruments were the Present State Examination (PSE), the Psychiatric History schedule (PH), and the Social Description schedule (SD).

The Present State Examination is a guide to structuring a clinical interview which has been developed over the past 10 years by Professor J. Wing and co-workers at the Social Psychiatry Research Unit, Medical Research Council, in London. It was specially modified to make it applicable in all of the vastly different sociocultural conditions in which this study took place. Although it provides for a structured interview, it can be administered in a flexible, clinical manner, according to the clinical style of the interviewer and the necessities of the clinical situation. Basically, this schedule is a list of items to be observed and asked about which systematically covers all of the phenomena likely to be considered during a comprehensive examination of a patient's current mental condition.

The Psychiatric History and Social Description schedules were developed during the course of the study by headquarters staff, the collaborating investigators, and consultants. They evolved gradually, after many tests under field conditions.

As one of the major aims of the IPSS was to determine if standardized instruments for evaluation of patients could be developed, an important part of the study was the analysis of the reliability of the data collected through the use of these instruments, particularly the PSE.

Two methods were used to evaluate the reliability of the PSE. In order to test intra-centre reliability, every sixth patient was assessed by two psychiatrists simultaneously. Each psychiatrist independently rated the patient, and his ratings were compared with those of the other psychiatrist. A total of 189 of these interviews was performed. To assess inter-centre reliability, 21 interviews, live or from videotapes and films, were each simultaneously rated by psychiatrists from various centres.

Reliability investigations based on this data indicate that it was possible to obtain satisfactory reliability among interviewers. Intra-centre reliability was higher than inter-centre reliability, and ratings made on the basis of patients' reports were more reliable than those made from observation of behaviour.

As the full set of research instruments yields over 2,000,000 items of information for the 1,202 patients in the study, special methods had to be developed to handle and analyse such massive amounts of data effectively.

Using these methods it was, for example, possible to construct profiles of symptomatology for each patient and each group of patients. The profiles of various groups of patients can then be compared. The Figure illustrates how such profiles can be used to compare a group of schizophrenic patients with a group of psychotically depressed patients.

The data accumulated in the study has been

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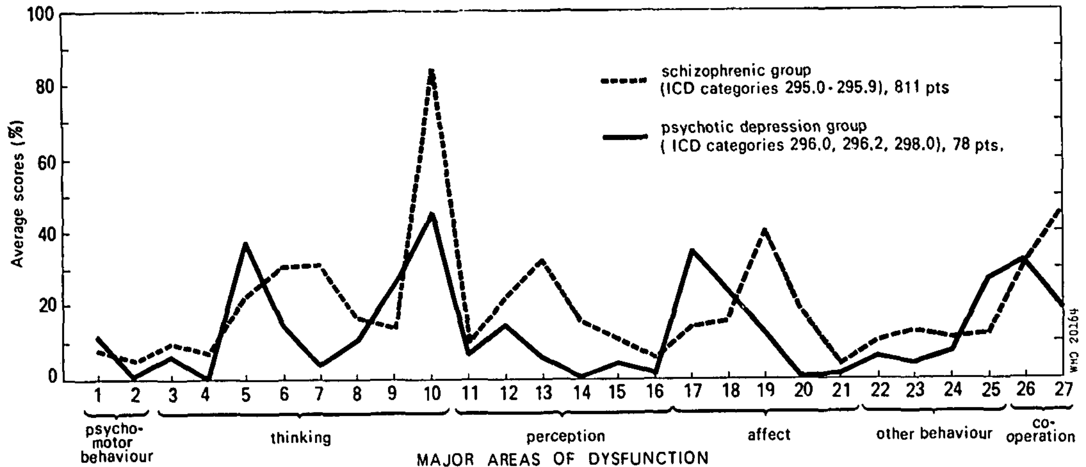

FIGURE *IPSS initial examination: average scores of patients with schizophrenia and patients with psychotic depression.*

analysed in a variety of ways, and it is not possible to present all the results in this space. Analyses were carried out at WHO Headquarters and some centres also participated in data analysis. For example, the London centre has developed a computer diagnostic programme to classify patients on the basis of information compiled from the PSE and Psychiatric History schedules. The Washington centre has done cluster analysis on the data about the patients in the study, to determine what groups of patients are formed when equal weight is given to all data and the classification is done by mathematical analysis. Other centres are developing special studies aimed at elucidation of problems identified during the course of the main study. The results of these analyses will be presented in detail in Volume I of the report of the IPSS, which is expected to be published during the course of this year.

The field research centres are now in the process of completing a two year follow-up of the patients in the study. Thus far, information has been obtained about more than 80% of patients who received an initial evaluation. Data analysis on the follow-up information is proceeding at headquarters in WHO.

From the data already analysed in the initial portion of the study, it can be concluded that it is possible to identify groups of schizophrenic patients with similar symptomatology in each of the IPSS centres. This is a finding of major importance for further studies and research in psychiatry. Reliable, large-scale international psychiatric studies have been shown to be feasible and it has been demonstrated that internationally applicable research instruments and procedures can be developed. An international network of centres has been established which can serve as a nucleus for further research and training in epidemiological and social psychiatry. Scientific groundwork has thus been laid for a psychiatric epidemiology which can serve psychiatry as medical epidemiology serves general medicine.

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